

NEW ABSTRACT

The method of fabricating semiconducting nanowires having a desired wire diameter includes providing pre-fabricated semiconducting nanowires, at least one pre-fabricated nanowire having a wire diameter larger than the desired wire diameter ( $d$ ); and reducing the wire diameter of the at least one pre-fabricated nanowire by etching. The etching is induced by light which is absorbed by the at least one pre-fabricated nanowire. The spectrum of the light is chosen such that the absorption of the at least one pre-fabricated nanowire is significantly reduced when the at least one pre-fabricated nanowire reaches the desired wire diameter.